IN THE CLAIMS:

1. (Currently Amended) A system, comprising:

a first heat exchanger adapted to receive a fluid from a heat source and a working fluid, wherein, when the working fluid is passed through the first heat exchanger, the working fluid is converted to a supercritical vapor via heat transfer from the heat contained in said fluid from said heat source, wherein a temperature-enthalpy profile of said working fluid in the first heat exchanger is approximately linear as the working fluid changes state from a liquid to a supercritical vapor;

at least one turbine adapted to receive said vapor <u>and adapted to drive at least one generator to thereby produce electrical power</u>;

an economizer heat exchanger adapted to receive exhaust vapor from said at least one turbine and said working fluid, wherein a temperature of the working fluid is adapted to be increased via heat transfer with said exhaust vapor from said at least one turbine prior to the introduction of said working fluid into said first heat exchanger;

a condenser heat exchanger that is adapted to receive said exhaust vapor from said at least one turbine after said exhaust vapor has passed through said economizer heat exchanger and a cooling fluid, wherein a temperature of said exhaust vapor is reduced via heat transfer with said cooling fluid; and

a pump that is adapted to circulate said working fluid to said economizer heat exchanger.

2. (Canceled)

3. (Original) The system of claim 1 further comprising a desuperheater heat exchanger that is adapted to decrease the temperature of the exhaust vapor from said at least one turbine via direct contact heat transfer with said exhaust vapor from the at least one turbine prior to introduction of said exhaust vapor into said condenser heat exchanger.

4. (Original) The system of claim 1 wherein said working fluid is a single component other than water.

5. (Original) The system of claim 1 wherein said working fluid is a combination of multiple components, none of which is water.

6. (Original) The system of claim 1, wherein said working fluid is HCFC-123.

7. (Original) The system of claim 1 wherein the working fluid is HCFC-123 and said fluid from said heat source has a temperature of between approximately 350°F and 1500°F.

8. (Original) The system of claim 7 wherein said pump is adapted to operate at a pressure greater than approximately 200 psig.

9. (Original) The system of claim 7 wherein said condenser heat exchanger is adapted to condense the exhaust vapor from said at least one turbine to a liquid at a temperature between approximately 50°F and 200°F.

10. (Original) The system of claim 1, wherein said working fluid is HFC-134a.

11. (Original) The system of claim 1 wherein the working fluid is HFC-134a and said fluid from said heat source has a temperature of between approximately 250°F and 1100°F.

12. (Original) The system of claim 11 wherein said pump is adapted to operate at a pressure greater than approximately 320 psig.

13. (Original) The system of claim 11 wherein said condenser heat exchanger is adapted to condense the exhaust vapor from said at least one turbine to a liquid at a temperature between approximately 50°F and 170°F.

14. (Original) The system of claim 1 wherein the working fluid is ammonia and said fluid from said heat source has a temperature less than approximately 400°F.

15. (Original) The system of claim 14 wherein said pump is adapted to operate at a pressure greater than approximately 220 psig.

16. (Original) The system of claim 14 wherein said condenser heat exchanger is utilized to condense said exhaust vapor from said at least one turbine to a liquid at a temperature between approximately 50°F and 160°F.

17. (Original) The system of claim 1 wherein said fluid from said heat source is an exhaust fluid from a combustion gas turbine.

18. (Original) The system of claim 1 wherein said fluid from said heat source is a fluid from at least one of an industrial process and a manufacturing process.

19. (Original) The system of claim 1 wherein said fluid from said heat source is an exhaust fluid from an internal combustion engine.

20. (Canceled)

21. (Canceled)

22. (Original) The system of claim 1 wherein said fluid from said heat source is a fluid that is extracted from an intermediate stage of compression of a multi-stage gas compressor.

23. (Original) The system of claim 1 wherein said fluid from said heat source is a compressed gas that has exited a final stage of compression in a multi-stage compressor.

24. (Canceled)

25. (Canceled)

26. (Canceled)

27. (Canceled)

28. (Currently Amended) The system of ~~claim 26~~ claim 1 wherein the electrical power generated is utilized in part or in full to drive at least one electrically powered refrigeration device.

29. (Currently Amended) ~~The method of claim 27 wherein the electrical power generated is utilized in part or in full to drive at least one electrically powered refrigeration device~~ The system of claim 1, further comprising a suction drum positioned downstream of said first heat exchanger and upstream of said turbine, said supercritical vapor from said first heat exchanger being adapted to flow through said suction drum to said turbine.

30. (Canceled)

31. (Canceled)

32. (Canceled)

33. (Canceled)

34. (Canceled)

35. (Original) The system of claim 1, wherein said fluid from said heat source is a fluid that is extracted from an intermediate stage of compression of a multi-stage gas compressor of a combustion gas turbine, and wherein said at least one turbine is adapted to drive at least one compressor of a refrigeration system to thereby produce refrigeration which is utilized to chill air entering the combustion gas turbine.

36.-72. (Canceled)

73. (Previously Presented) A system, comprising:

a first heat exchanger adapted to receive a fluid from a heat source and a working fluid, wherein, when the working fluid is passed through the first heat exchanger, the working fluid is converted to a vapor via heat transfer from the heat contained in said fluid from said heat source;

at least one turbine adapted to receive said vapor and to drive at least one compressor of a refrigeration system to thereby produce refrigeration, which may be utilized to chill the air entering a combustion gas turbine or to provide refrigeration to any other industrial, commercial, or residential refrigeration demand;

an economizer heat exchanger adapted to receive exhaust vapor from said at least one turbine and said working fluid, wherein a temperature of the working fluid is adapted to be increased via heat transfer with said exhaust vapor from said at least

one turbine prior to the introduction of said working fluid into said first heat exchanger;

a condenser heat exchanger that is adapted to receive said exhaust vapor from said at least one turbine after said exhaust vapor has passed through said economizer heat exchanger and a cooling fluid, wherein a temperature of said exhaust vapor is reduced via heat transfer with said cooling fluid; and

a pump that is adapted to circulate said working fluid to said economizer heat exchanger.

74. (Previously Presented) The system of claim 73 wherein said at least one turbine is further adapted to drive at least one generator to thereby produce electrical power.

75. (Previously Presented) The system of claim 74 wherein the electrical power generated is utilized in part or in full to drive at least one electrically powered refrigeration device.

76. (Previously Presented) A system, comprising:

a first heat exchanger adapted to receive an exhaust fluid from a combustion gas turbine and a working fluid, wherein, when the working fluid is passed through the first heat exchanger, the working fluid is converted to a vapor via heat transfer from the heat contained in said exhaust fluid from said combustion gas turbine;

at least one turbine adapted to receive said vapor and to drive at least one compressor of a refrigeration system to thereby produce refrigeration to chill air entering said combustion gas turbine;

an economizer heat exchanger adapted to receive exhaust vapor from said at least one turbine and said working fluid, wherein a temperature of the working fluid is adapted to be increased via heat transfer with said exhaust vapor from said at least one turbine prior to the introduction of said working fluid into said first heat exchanger;

a condenser heat exchanger that is adapted to receive said exhaust vapor from said at least one turbine after said exhaust vapor has passed through said economizer heat exchanger and a cooling fluid, wherein a temperature of said exhaust vapor is reduced via heat transfer with said cooling fluid; and

a pump that is adapted to circulate said working fluid to said economizer heat exchanger.

77. (Previously Presented) The system of claim 76 wherein said at least one turbine is adapted to utilize at least one intermediate heat exchanger adapted to receive a cold refrigerant liquid and exhaust a warm refrigerant vapor while cooling an intermediate operating fluid utilized in a heat exchanger adapted to receive said intermediate media and provide cooling for the air entering the turbine.

78. (Previously Presented) The system of claim 76 wherein said at least one turbine is adapted to utilize at least one intermediate refrigeration heat exchanger adapted to receive a cold refrigerant liquid and exhaust a warm refrigerant vapor while cooling an intermediate operating fluid utilized in a heat exchanger adapted to receive said intermediate media and provide cooling for the air entering the combustion gas turbine and at least some fraction of the work produced by the turbine is used to produce electrical power.

79. (Canceled)

80. (Canceled)

81. (Previously Presented) A system, comprising:

a first heat exchanger adapted to receive an exhaust fluid from a combustion gas turbine and a working fluid, wherein, when the working fluid is passed through the first heat exchanger, the working fluid is converted to a vapor via heat transfer from the heat contained in said exhaust fluid from said combustion gas turbine;

at least one turbine adapted to receive said vapor and to drive at least one compressor of a refrigeration system to thereby produce refrigeration to chill air entering said combustion as turbine;

a desuperheater heat exchanger adapted to receive exhaust vapor from said at least one turbine and a portion of the working fluid extracted upstream of the first heat exchanger, wherein the temperature of the exhaust vapor from the at least one turbine is adapted to be reduced via heat transfer by direct contact and mixing with said working fluid in said desuperheater heat exchanger;

a condenser heat exchanger that is adapted to receive working fluid exiting said desuper-heater heat exchanger and a cooling fluid, wherein a temperature of said working fluid is adapted to be reduced via heat transfer with said cooling fluid in said condenser heat exchanger; and

a pump adapted to circulate said working fluid to said first heat exchanger.

82. (Previously Presented) The system of claim 81 wherein said at least one turbine is adapted to utilize at least one intermediate refrigeration heat exchanger adapted to receive the cooled working fluid and exhaust a warm refrigerant vapor while cooling an intermediate operating fluid utilized in a heat exchanger adapted to receive said intermediate operating fluid and provide cooling for the air entering the turbine.

83. (Previously Presented) The system of claim 81 wherein said at least one turbine is adapted to utilize at least one intermediate refrigeration heat exchanger adapted to receive the cooled working fluid and exhaust a war refrigerant vapor while cooling an intermediate operating fluid utilized in a heat exchanger adapted to receive said intermediate operating fluid and provide cooling for the air entering the combustion gas turbine and at least some fraction of the work produced by the turbine is used to produce electrical power.

84. (Previously Presented) A system, comprising:

a first heat exchanger adapted to receive a fluid extracted from an intermediate stage of compression of a multi-stage gas compressor of a combustion gas turbine and a working fluid, wherein, when the working fluid is passed through the first heat exchanger, the working fluid is converted to a vapor via heat transfer from the heat contained in said fluid extracted from said intermediate stage of compression;

at least one turbine adapted to receive said vapor and to drive at least one compressor of a refrigeration system to thereby produce refrigeration which is utilized to chill air entering said combustion gas turbine;

an economizer heat exchanger adapted to receive exhaust vapor from said at least one turbine and said working fluid, wherein a temperature of the working fluid is adapted to be increased via heat transfer with said exhaust vapor from said at least one turbine prior to the introduction of said working fluid into said first heat exchanger;

a condenser heat exchanger that is adapted to receive said exhaust vapor from said at least one turbine after said exhaust vapor has passed through said economizer heat exchanger and a cooling fluid, wherein a temperature of said exhaust vapor is reduced via heat transfer with said cooling fluid; and

a pump that is adapted to circulate said working fluid to said economizer heat exchanger.

85. (Previously Presented) The system of claim 84 wherein said at least one turbine is adapted to utilize at least one intermediate refrigeration heat exchanger adapted to receive the cooled working fluid and exhaust a warm refrigerant vapor while cooling an intermediate operating fluid utilized in a heat exchanger adapted to receive said intermediate operating fluid and provide cooling for the air entering the turbine.

86. (Previously Presented) A system, comprising:

a first heat exchanger adapted to receive a fluid extracted from an intermediate stage of compression of a multi-stage gas compressor of a combustion gas turbine and a

working fluid, wherein, when the working fluid is passed through the first heat exchanger, the working fluid is converted to a vapor via heat transfer from the heat contained in said fluid extracted from said intermediate stage of compression;

at least one turbine adapted to receive said vapor and to drive at least one compressor of a refrigeration system to thereby produce refrigeration which is utilized to chill air entering said combustion gas turbine;

a desuperheater heat exchanger adapted to receive exhaust vapor from said at least one turbine and a portion of the working fluid extracted upstream of the first heat exchanger, wherein the temperature of the exhaust vapor from the at least one turbine is adapted to be reduced via heat transfer by direct contact and mixing with said working fluid in said desuperheater heat exchanger;

a condenser heat exchanger that is adapted to receive working fluid exiting said desuper-heater heat exchanger and a cooling fluid, wherein a temperature of said working fluid is adapted to be reduced via heat transfer with said cooling fluid in said condenser heat exchanger; and

a pump adapted to circulate said working fluid to said first heat exchanger.

87. (Previously Presented) The system of claim 86 wherein said at least one turbine is adapted to utilize at least one intermediate refrigeration heat exchanger adapted to receive the cooled working fluid and exhaust a warm refrigerant vapor while cooling an intermediate operating fluid utilized in a heat exchanger adapted to receive said intermediate operating fluid and provide cooling for the air entering the turbine.

88. (Previously Presented) A system, comprising:

a first heat exchanger adapted to receive a superheated vapor from a high pressure stage of a refrigeration system that is utilized exclusively for the purpose of replacing a condenser in the refrigeration system and a working fluid, wherein, when the working fluid is passed through the first heat exchanger, the working fluid is converted to a vapor via heat transfer from the heat contained in said fluid from said heat source;

at least one turbine adapted to receive said vapor;

a desuperheater heat exchanger adapted to receive exhaust vapor from said at least one turbine and a portion of the working fluid extracted upstream of the first heat exchanger, wherein the temperature of the exhaust vapor from the at least one turbine is adapted to be reduced via heat transfer by direct contact and mixing with said working fluid in said desuperheater heat exchanger;

a condenser heat exchanger that is adapted to receive working fluid exiting said desuper-heater heat exchanger and a cooling fluid, wherein a temperature of said working fluid is adapted to be reduced via heat transfer with said cooling fluid in said condenser heat exchanger; and

a pump adapted to circulate said working fluid to said first heat exchanger.

89. (Canceled)